

## METHODOLOGY AND ASSUMPTIONS

1. Select 50 RCS vendors.
  - All large vendors (over \$50 million).
  - Smaller vendors on which INPUT has adequate information.
  - These 50 companies represent about 80% of the RCS market - 1978.
2. Establish 1978 domestic RCS revenue for these 50 vendors.
  - Exclude international revenue.
  - Exclude batch processing and other revenue.
3. Allocate 1978 RCS revenue by the seven application categories (lines 7 through 12B).
  - Using data where available.
  - Using INPUT personnel knowledge of each vendor.
4. Estimate the amount of on-site hardware based RCS revenue and allocate this by the same application categories.

5. Establish an overall growth rate for each of the 50 vendors for the period 1978 to 1985.
  - Using historical information.
  - Using INPUT judgment.
6. Allocate the 1985 revenue by the application categories and by on-site hardware as in Steps 3 and 4.
7. Calculate the growth of the revenue from each application area for each company using industry wide application growth rates.
8. Compare the results of Step 6 and Step 7 and make adjustments as deemed appropriate.
9. Plot the growth of each company's revenue derived from each of the application categories using the 1978 and 1985 estimated revenues.

EXHIBIT 1-A  
 VENDOR RANKING  
 TOTAL ON-SITE HARDWARE

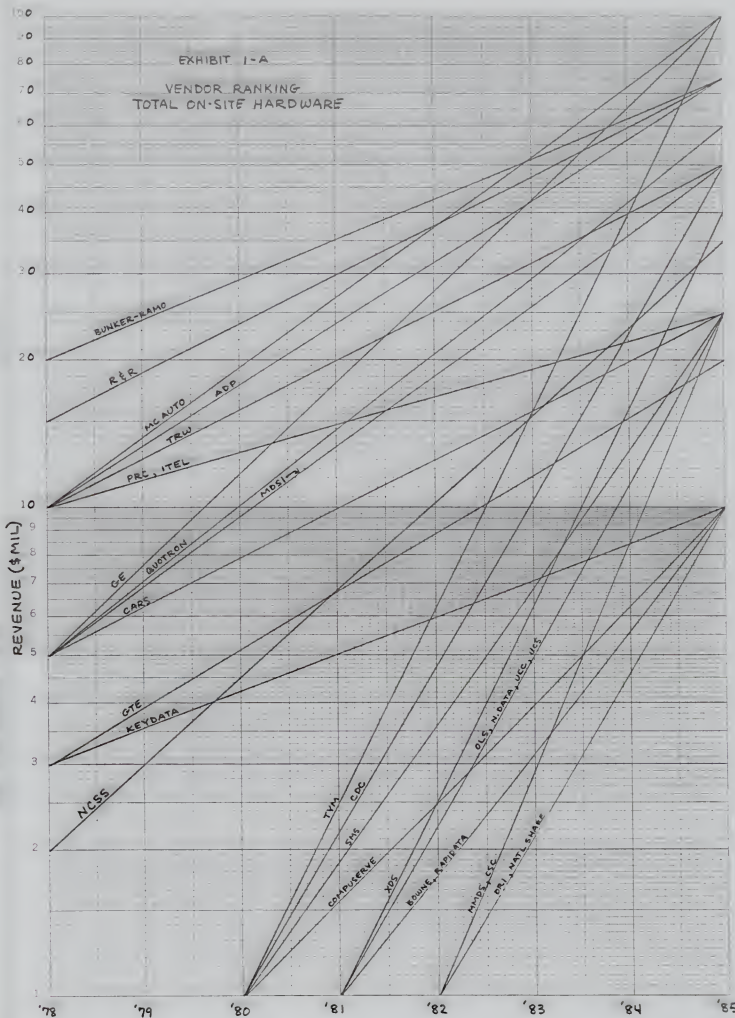


EXHIBIT 1-B  
 VENDOR RANKING  
 APPLICATION DEVELOPMENT  
 END USER INTERFACE

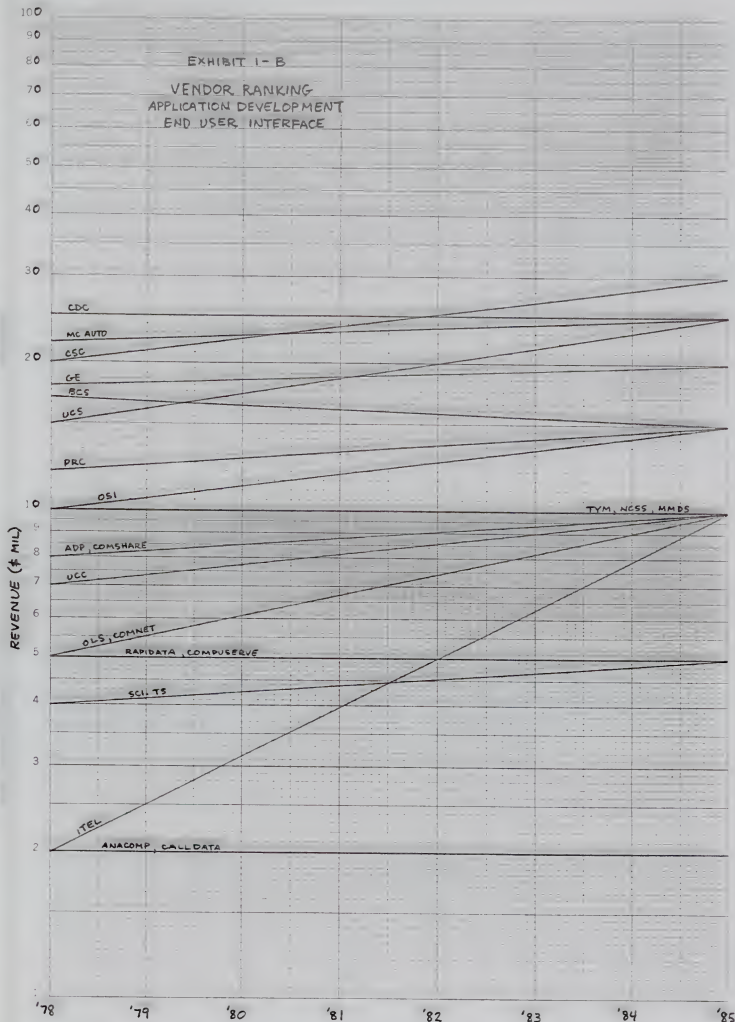
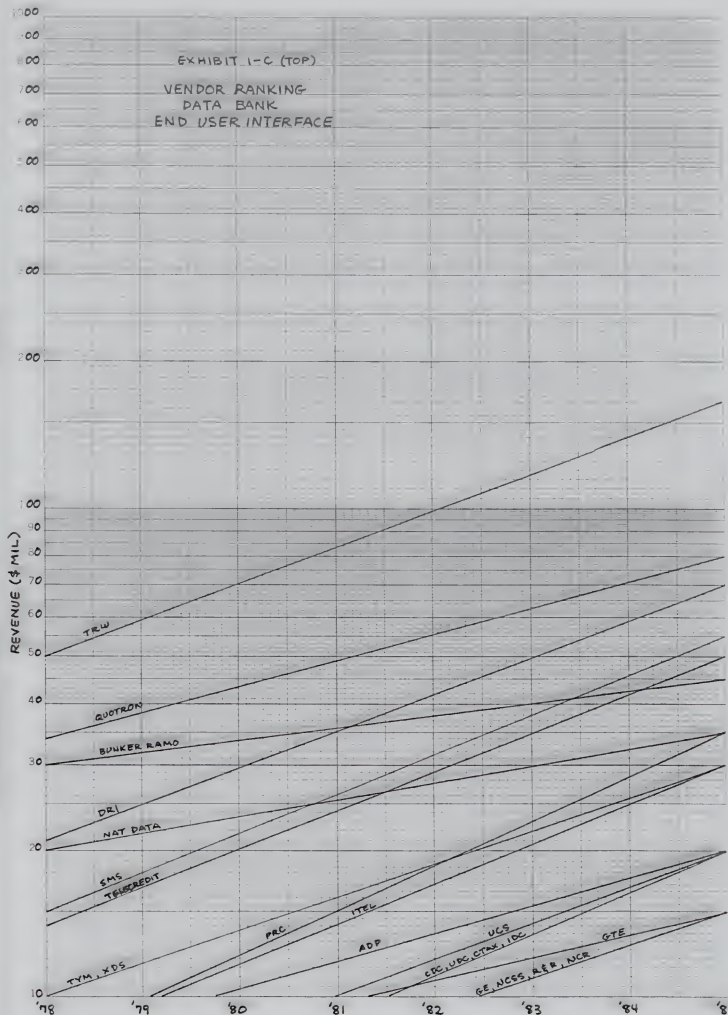


EXHIBIT 1-C (TOP)  
VENDOR RANKING  
DATA BANK  
END USER INTERFACE

46 5050

K-E SEMI-LOGARITHMIC 2 CYCLES X 84 DIVISIONS  
REVENUE & EXPENDITURE



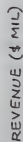
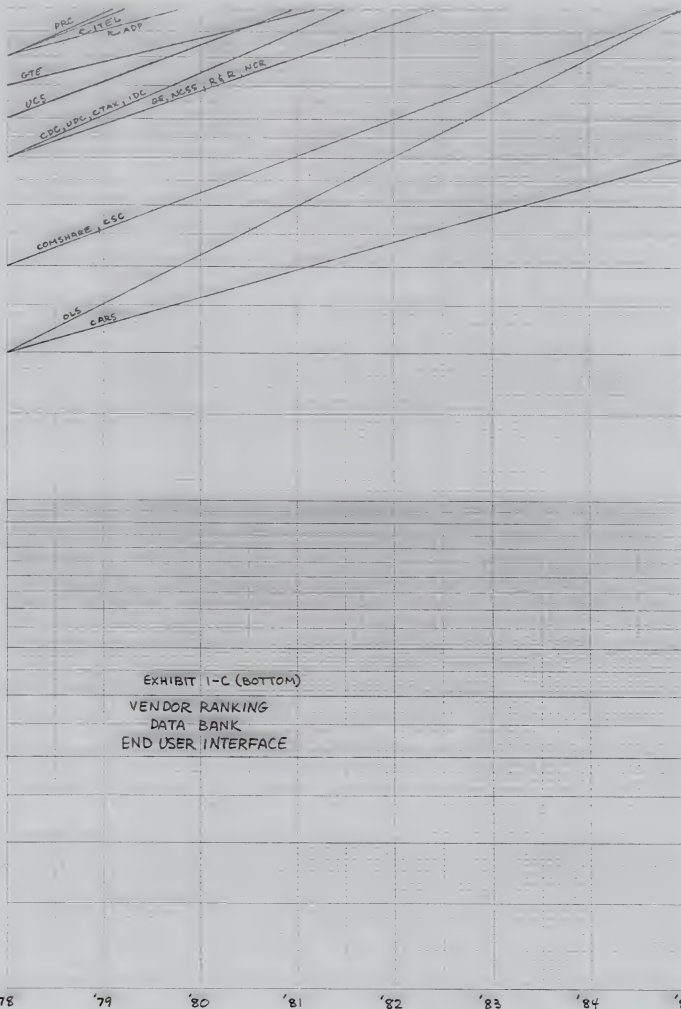


EXHIBIT 1-C (BOTTOM)

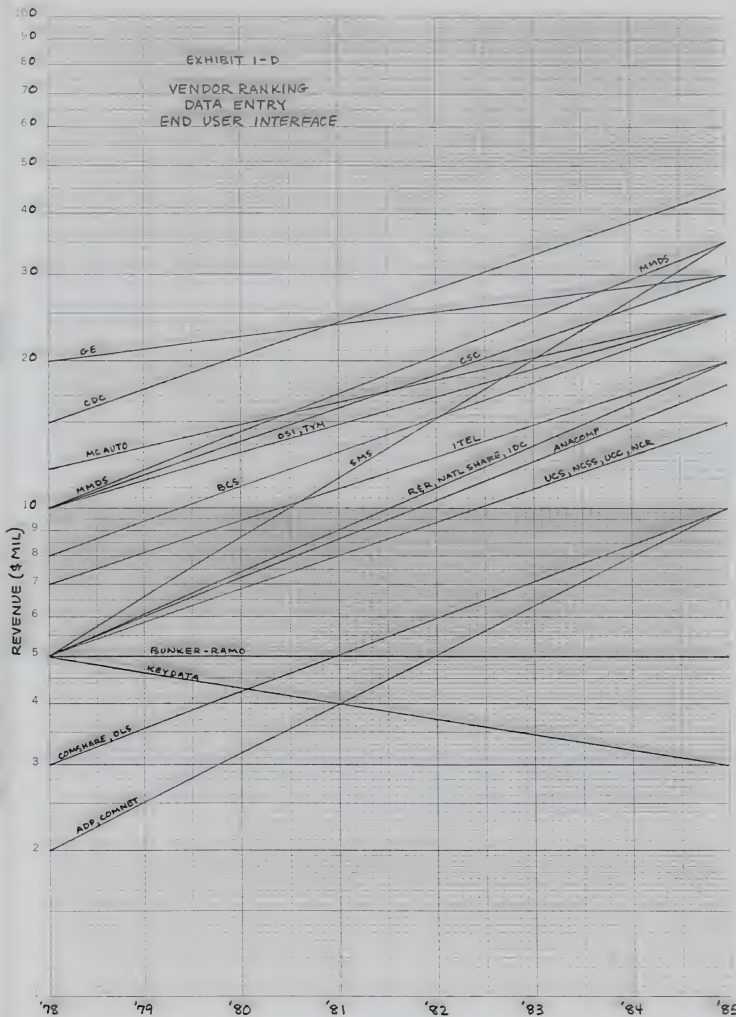
VENDOR RANKING  
DATA BANK  
END USER INTERFACE



46 5050

K-E SEMI-LOGARITHMIC 2 CYCLES X 8 DIVISIONS  
REVENUE & COSTS IN \$ MIL

EXHIBIT 1-D  
VENDOR RANKING  
DATA ENTRY  
END USER INTERFACE



REVENUE (\$ MIL)

EXHIBIT 1-E  
VENDOR RANKING  
OFFICE AUTOMATION  
END USER INTERFACE

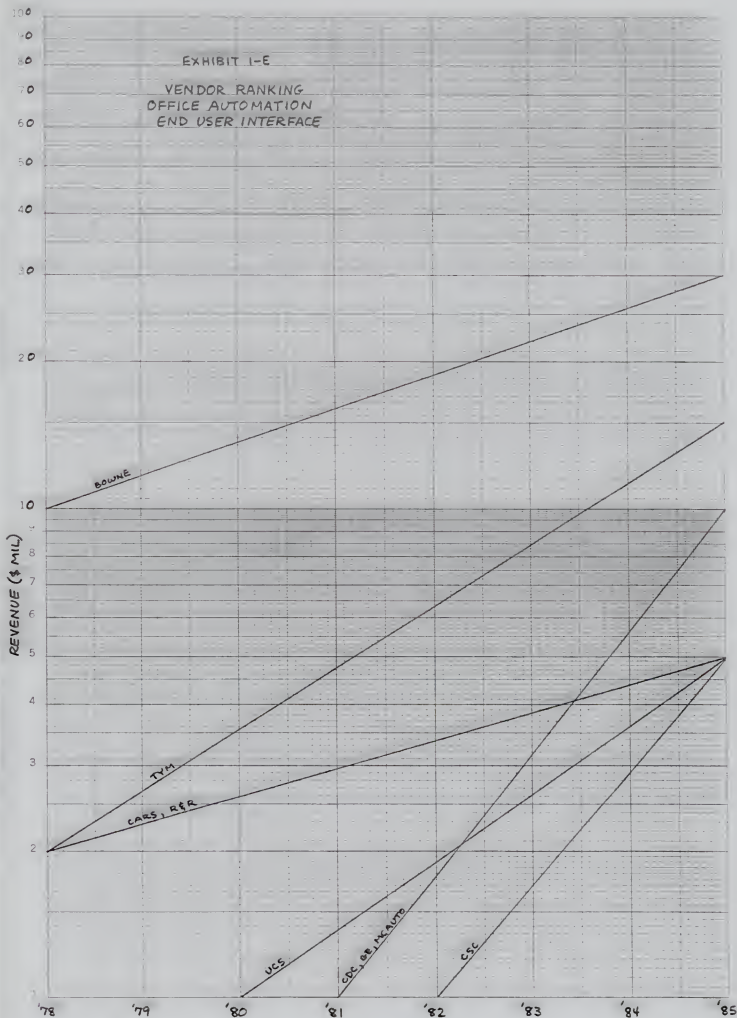
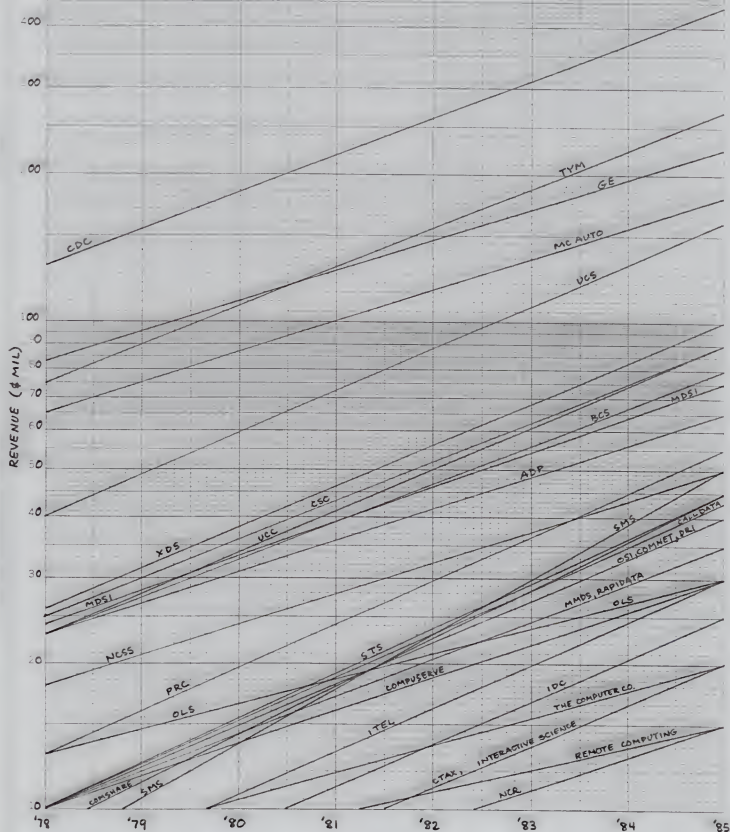


EXHIBIT I-F (TOP)

VENDOR RANKING  
PERSONAL COMPUTING  
END USER INTERFACE



REVENUE (\$ MIL.)

'78 '79 '80 '81 '82 '83 '84 '85

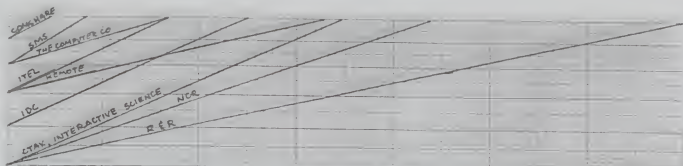
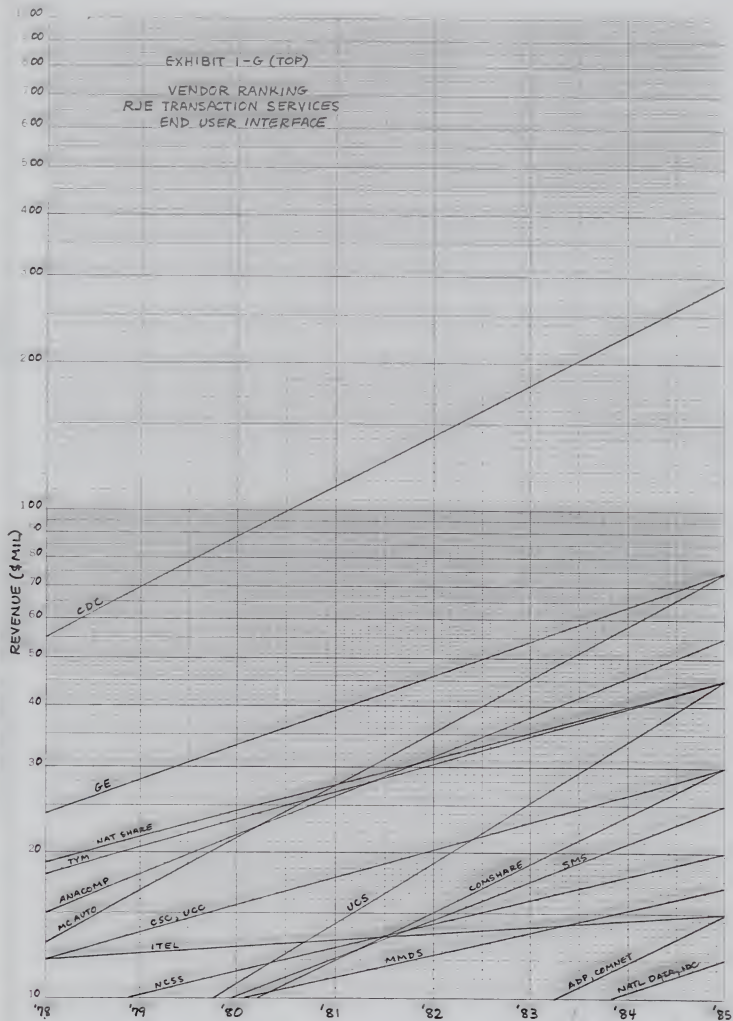


EXHIBIT I-F (BOTTOM)  
VENDOR RANKING-  
PERSONAL COMPUTING-  
END USER INTERFACE



46 5050

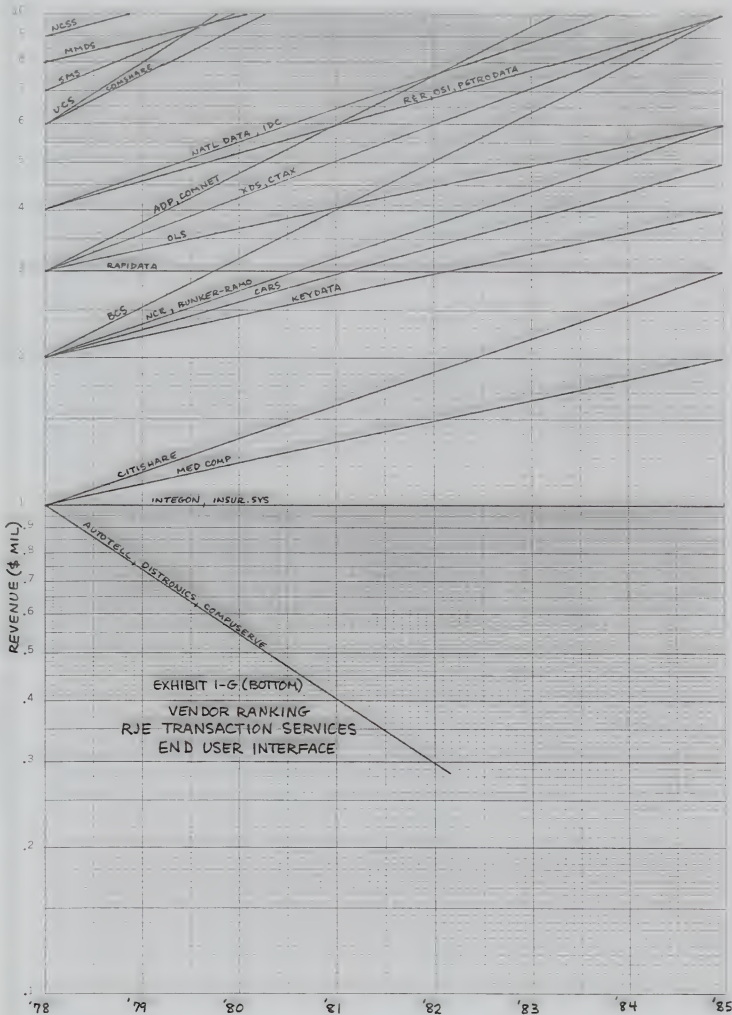
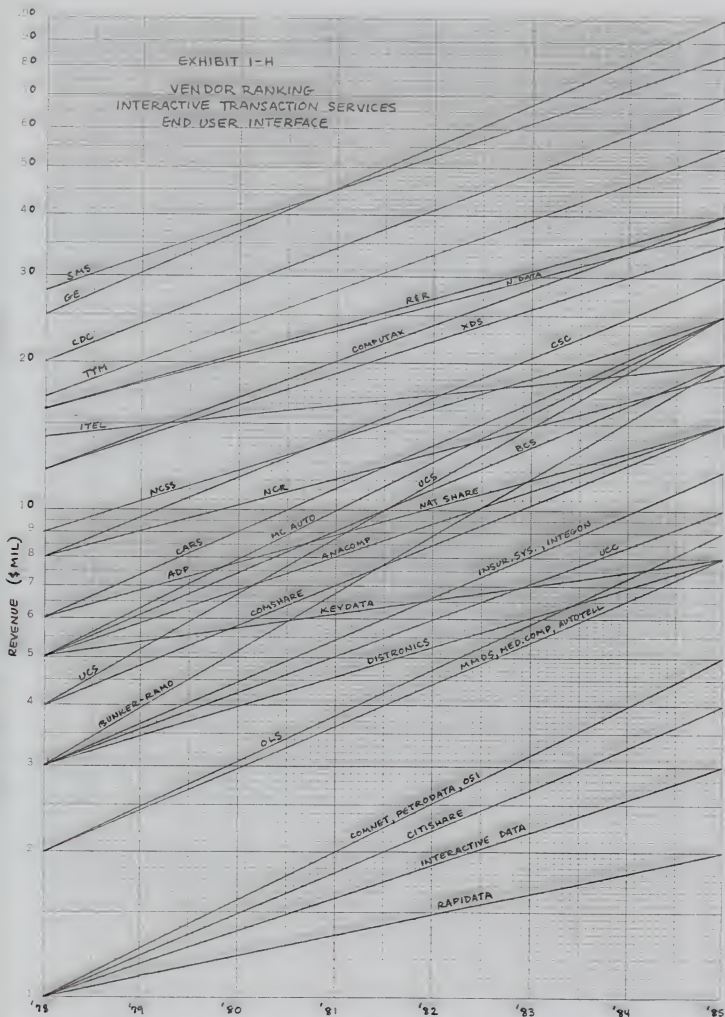
K&E SEMILOGARITHMIC 2 CYCLES X 14 DIVISIONS  
KUPFFEL & ESSER CO. 100 00 0 1 4

EXHIBIT I-H  
 VENDOR RANKING  
 INTERACTIVE TRANSACTION SERVICES  
 END USER INTERFACE



## EXHIBIT II A

U.S. REVENUE FORECASTS  
DISCRETE MANUFACTURING  
(MILLIONS OF DOLLARS)

RCS OFFERINGS	YEAR					
	1980	1981	1982	1983	1984	1985
ON SITE HARDWARE (DDP)						
1)APPLICATION DEVEL.	3	4	4	5	6	8
2)DATA BANKS	4	6	8	12	16	24
3)DATA ENTRY	2	3	4	6	9	13
4)OFFICE AUTOMATION	1	1	2	3	4	8
5)PERSONAL COMP.	12	17	24	35	49	69
6)TRANSACTION SVCS.	8	12	17	24	35	50
TOTAL ON-SITE HDW.	30	43	59	85	119	172
END USER INTERFACE ONLY						
7)APPLICATION DEVEL.	27	28	30	30	32	35
8)DATA BANKS	51	62	74	89	106	124
9)DATA ENTRY	29	37	44	53	62	73
10)OFFICE AUTOMATION	4	7	8	10	12	18
11)PERSONAL COMP.	163	193	229	267	311	361
12A)TRANS. SVC.-RJE	68	91	111	132	158	187
12B)TRANS. SVC.INTER	45	62	76	91	109	129
TOTAL END USER INTR	387	480	572	672	790	927
TOTAL	417	523	631	757	909	1,099

INPUT

# EXHIBIT 11 B

## U.S. REVENUE FORECASTS PROCESS MANUFACTURING (MILLIONS OF DOLLARS)

RCS OFFERINGS	YEAR					
	1980	1981	1982	1983	1984	1985
ON SITE HARDWARE (DDP)						
1)APPLICATION DEVEL.	3	4	5	6	8	9
2)DATA BANKS	2	3	5	6	11	15
3)DATA ENTRY	1	2	2	3	5	8
4)OFFICE AUTOMATION	LESS THAN 1	1	2	3	4	5
5)PERSONAL COMP.	10	13	18	26	36	52
6)TRANSACTION SVCS.	5	9	12	18	25	36
TOTAL ON-SITE HDW.	21	32	44	62	89	125
END USER INTERFACE ONLY						
7)APPLICATION DEVEL.	32	33	35	35	38	40
8)DATA BANKS	32	39	46	55	65	77
9)DATA ENTRY	17	21	26	32	37	45
10)OFFICE AUTOMATION	3	4	5	6	8	13
11)PERSONAL COMP.	123	145	173	202	235	271
12A)TRANS. SVC.-RJE	51	64	78	94	110	127
12B)TRANS. SVC.INTER	33	42	51	63	72	85
TOTAL END USER INTR	291	348	414	487	565	658
TOTAL	312	380	458	549	654	783

EXHIBIT II C  
U.S. REVENUE FORECASTS  
TRANSPORTATION SECTOR  
(MILLIONS OF DOLLARS)

RCS OFFERINGS	YEAR					
	1980	1981	1982	1983	1984	1985
ON SITE HARDWARE (DDP)						
1)APPLICATION DEVEL.	2	2	2	2	3	3
2)DATA BANKS	1	2	3	4	5	8
3)DATA ENTRY	LESS THAN 1	LESS THAN 1	1	1	2	2
4)OFFICE AUTOMATION	LESS THAN 1	1	1	2	4	5
5)PERSONAL COMP.	4	5	6	9	13	18
6)TRANSACTION SVCS.	2	2	4	6	9	13
TOTAL ON-SITE HDW.	9	12	18	24	36	49
END USER INTERFACE ONLY						
7)APPLICATION DEVEL.	8	9	9	9	9	10
8)DATA BANKS	16	20	24	29	36	40
9)DATA ENTRY	9	10	12	15	17	20
10) OFFICE AUTOMATION	1	1	1	2	4	5
11) PERSONAL COMP.	33	40	46	51	63	75
12A) TRANS. SVC.-RJE	22	27	32	38	45	53
12B) TRANS. SVC.INTER	14	18	22	26	30	35
TOTAL END USER INTR	103	125	146	170	204	238
TOTAL	112	137	164	194	240	287

EXHIBIT II D  
U.S. REVENUE FORECASTS  
UTILITY SECTOR  
(MILLIONS OF DOLLARS)

RCS OFFERINGS	YEAR					
	1980	1981	1982	1983	1984	1985
ON SITE HARDWARE (DDP)						
1)APPLICATION DEVEL.	2	3	4	5	6	8
2)DATA BANKS	1	3	3	4	7	10
3)DATA ENTRY	LESS THAN 1	1	2	2	3	5
4)OFFICE AUTOMATION	LESS THAN 1	1	2	2	3	5
5)PERSONAL COMP.	9	12	17	26	35	49
6)TRANSACTION SVCS.	4	5	8	11	16	24
TOTAL ON-SITE HDW.	16	25	36	50	70	100
END USER INTERFACE ONLY						
7)APPLICATION DEVEL.	25	26	28	28	30	33
8)DATA BANKS	19	24	28	34	41	48
9)DATA ENTRY	11	13	16	19	23	27
10)OFFICE AUTOMATION	1	1	1	2	3	4
11)PERSONAL COMP.	108	121	138	159	181	210
12A)TRANS. SVC.-RJE	34	42	51	61	74	86
12B)TRANS. SVC.INTER	23	28	34	41	49	56
TOTAL END USER INTR	221	255	296	344	401	464
TOTAL	237	280	332	394	471	564

EXHIBIT II E  
U.S. REVENUE FORECASTS  
WHOLESALE SECTOR  
(MILLIONS OF DOLLARS)

RCS OFFERINGS	YEAR					
	1980	1981	1982	1983	1984	1985
ON SITE HARDWARE (DDP)						
1)APPLICATION DEVEL.	1	2	2	3	3	4
2)DATA BANKS	2	3	4	6	8	11
3)DATA ENTRY	1	2	3	6	8	11
4)OFFICE AUTOMATION	1	1	2	3	5	7
5)PERSONAL COMP.	5	7	10	14	20	27
6)TRANSACTION SVCS.	4	5	7	11	16	23
TOTAL ON-SITE HDW.	14	20	28	43	60	83
END USER INTERFACE ONLY						
7)APPLICATION DEVEL.	7	7	8	8	8	9
8)DATA BANKS	24	30	36	43	50	60
9)DATA ENTRY	17	20	26	31	37	43
10) OFFICE AUTOMATION	4	5	7	9	12	18
11) PERSONAL COMP.	66	78	92	108	127	147
12A) TRANS. SVC.-RJE	36	45	56	67	79	91
12B) TRANS. SVC. INTER	25	30	37	44	52	62
TOTAL END USER INTR	179	215	262	310	365	430
TOTAL	193	235	290	353	425	513

EXHIBIT 11 F  
U.S. REVENUE FORECASTS  
RETAIL SECTOR  
(MILLIONS OF DOLLARS)

RCS OFFERINGS	YEAR					
	1980	1981	1982	1983	1984	1985
ON SITE HARDWARE (DDP)						
1)APPLICATION DEVEL.	2	2	3	3	4	5
2)DATA BANKS	7	10	13	19	28	40
3)DATA ENTRY	3	4	6	8	13	17
4)OFFICE AUTOMATION	LESS THAN 1	1	1	2	3	6
5)PERSONAL COMP.	8	11	16	23	33	45
6)TRANSACTION SVCS.	9	12	17	27	39	55
TOTAL ON-SITE HDW.	29	40	56	82	120	168
END USER INTERFACE ONLY						
7)APPLICATION DEVEL.	11	12	12	12	13	14
8)DATA BANKS	86	103	124	138	157	180
9)DATA ENTRY	38	46	58	71	82	97
10) OFFICE AUTOMATION	2	2	3	3	6	9
11) PERSONAL COMP.	92	105	118	144	174	208
12A) TRANS. SVC.-RJE	70	81	101	129	152	174
12B) TRANS. SVC. INTER	46	53	66	84	97	111
TOTAL END USER INTR	345	402	482	581	681	793
TOTAL	374	442	538	663	801	961

EXHIBIT II G  
U.S. REVENUE FORECASTS  
BANKING AND FINANCE  
(MILLIONS OF DOLLARS)

RCS OFFERINGS	YEAR					
	1980	1981	1982	1983	1984	1985
ON SITE HARDWARE (DDP)						
1)APPLICATION DEVEL.	5	6	7	9	11	13
2)DATA BANKS	13	19	27	38	55	80
3)DATA ENTRY	7	10	15	21	30	43
4)OFFICE AUTOMATION	LESS THAN 1	1	2	2	4	6
5)PERSONAL COMP.	20	28	41	56	79	110
6)TRANSACTION SVCS.	23	33	49	72	103	147
TOTAL ON-SITE HDW.	68	97	141	198	282	399
END USER INTERFACE ONLY						
7)APPLICATION DEVEL.	47	48	52	52	56	61
8)DATA BANKS	170	199	235	283	336	395
9)DATA ENTRY	90	112	139	168	197	230
10) OFFICE AUTOMATION	2	3	4	5	6	10
11) PERSONAL COMP.	236	274	323	375	436	459
12A) TRANS. SVC.-RJE	185	229	284	342	403	470
12B) TRANS. SVC. INTER	124	152	189	228	269	322
TOTAL END USER INTR	854	1,017	1,226	1,453	1,703	1,947
TOTAL	922	1,114	1,367	1,651	1,985	2,346

EXHIBIT II H  
U.S. REVENUE FORECASTS  
INSURANCE  
(MILLIONS OF DOLLARS)

RCS OFFERINGS	YEAR					
	1980	1981	1982	1983	1984	1985
ON SITE HARDWARE (DDP)						
1) APPLICATION DEVEL.	2	2	3	3	4	5
2) DATA BANKS	1	2	2	3	5	6
3) DATA ENTRY	LESS THAN 1	1	1	1	2	2
4) OFFICE AUTOMATION	LESS THAN 1	1	1	2	3	5
5) PERSONAL COMP.	3	5	6	9	12	18
6) TRANSACTION SVCS.	2	3	4	6	10	13
TOTAL ON-SITE HDW.	8	14	17	24	36	49
END USER INTERFACE ONLY						
7) APPLICATION DEVEL.	12	12	13	13	14	15
8) DATA BANKS	13	16	19	23	27	32
9) DATA ENTRY	8	9	13	13	15	18
10) OFFICE AUTOMATION	1	2	2	2	4	5
11) PERSONAL COMP.	41	49	59	68	79	92
12A) TRANS. SVC.-RJE	21	27	33	39	47	55
12B) TRANS. SVC. INTER	15	18	21	26	31	36
TOTAL END USER INTR	111	133	160	184	217	253
TOTAL	119	147	177	208	253	302

EXHIBIT II I  
U.S. REVENUE FORECASTS  
MEDICAL SERVICES  
(MILLIONS OF DOLLARS)

RCS OFFERINGS	YEAR					
	1980	1981	1982	1983	1984	1985
ON SITE HARDWARE (DDP)						
1)APPLICATION DEVEL.	LESS THAN 1	LESS THAN 1	1	1	1	1
2)DATA BANKS	3	4	6	8	12	17
3)DATA ENTRY	3	3	3	4	5	7
4)OFFICE AUTOMATION	LESS THAN 1	LESS THAN 1	LESS THAN 1	LESS THAN 1	1	1
5)PERSONAL COMP.	8	12	17	24	34	47
6)TRANSACTION SVCS.	1	2	3	4	6	8
TOTAL ON-SITE HDW.	15	21	29	41	59	81
END USER INTERFACE ONLY						
7)APPLICATION DEVEL.	2	2	2	2	2	2
8)DATA BANKS	38	45	54	66	78	92
9)DATA ENTRY	23	28	36	43	51	59
10)OFFICE AUTOMATION	LESS THAN 1	LESS THAN 1	LESS THAN 1	1	1	1
11)PERSONAL COMP.	108	126	153	180	197	241
12A)TRANS. SVC.-RJE	14	17	21	26	29	34
12B)TRANS. SVC.INTER	9	11	14	18	20	23
TOTAL END USER INTR	194	229	280	336	378	452
TOTAL	209	250	309	377	437	533

EXHIBIT II J  
U.S. REVENUE FORECASTS  
EDUCATION SERVICES  
(MILLIONS OF DOLLARS)

RCS OFFERINGS	YEAR					
	1980	1981	1982	1983	1984	1985
ON SITE HARDWARE (DDP)						
1)APPLICATION DEVEL.	2	3	4	4	5	6
2)DATA BANKS	LESS THAN 1	LESS THAN 1	1	1	1	1
3)DATA ENTRY	LESS THAN 1	LESS THAN 1	LESS THAN 1	LESS THAN 1	LESS THAN 1	LESS THAN 1
4)OFFICE AUTOMATION	LESS THAN 1	1	1	2	3	5
5)PERSONAL COMP.	2	2	3	4	6	8
6)TRANSACTION SVCS.	1	1	1	1	1	1
TOTAL ON-SITE HDW.	5	7	10	12	16	21
END USER INTERFACE ONLY						
7)APPLICATION DEVEL.	6	6	6	6	7	8
8)DATA BANKS	2	3	3	4	5	6
9)DATA ENTRY	LESS THAN 1	LESS THAN 1	LESS THAN 1	LESS THAN 1	LESS THAN 1	LESS THAN 1
10)OFFICE AUTOMATION	1	1	1	1	2	4
11)PERSONAL COMP.	18	22	27	32	37	43
12A) TRANS. SVC.-RJE	10	11	14	17	19	21
12B) TRANS. SVC. INTER	6	7	9	11	12	13
TOTAL END USER INTR	43	50	60	71	82	95
TOTAL	48	57	70	83	98	116

EXHIBIT 11 K  
U.S. REVENUE FORECASTS  
OTHER SERVICES  
(MILLIONS OF DOLLARS)

RCS OFFERINGS	YEAR					
	1980	1981	1982	1983	1984	1985
ON SITE HARDWARE (DDP)						
1)APPLICATION DEVEL.	2	4	4	5	6	7
2)DATA BANKS	3	4	6	9	13	18
3)DATA ENTRY	1	1	1	2	3	5
4)OFFICE AUTOMATION	LESS THAN 1	1	1	2	3	5
5)PERSONAL COMP.	11	15	22	31	44	61
6)TRANSACTION SVCS.	3	6	8	12	15	23
TOTAL ON-SITE HDW.	20	31	42	61	84	119
END USER INTERFACE ONLY						
7)APPLICATION DEVEL.	18	18	19	19	21	23
8)DATA BANKS	39	47	57	68	82	96
9)DATA ENTRY	12	15	18	23	27	30
10)OFFICE AUTOMATION	2	2	3	4	5	8
11)PERSONAL COMP.	144	172	203	239	279	324
12A)TRANS. SVC.-RJE	33	41	50	59	71	83
12B)TRANS. SVC.INTER	22	27	34	41	48	56
TOTAL END USER INTR	270	322	383	453	533	620
TOTAL	290	353	426	514	618	740

EXHIBIT II L  
U.S. REVENUE FORECASTS  
FEDERAL GOVERNMENT  
(MILLIONS OF DOLLARS)

RCS OFFERINGS	YEAR					
	1980	1981	1982	1983	1984	1985
ON SITE HARDWARE (DDP)						
1)APPLICATION DEVEL.	8	10	12	14	19	23
2)DATA BANKS	3	4	6	8	12	18
3)DATA ENTRY	1	2	4	5	7	11
4)OFFICE AUTOMATION	LESS THAN 1	1	2	2	3	5
5)PERSONAL COMP.	12	18	26	37	50	72
6)TRANSACTION SVCS.	3	6	8	12	17	24
TOTAL ON-SITE HDW.	27	41	58	78	108	153
END USER INTERFACE ONLY						
7)APPLICATION DEVEL.	88	90	96	97	105	113
8)DATA BANKS	38	45	54	64	77	91
9)DATA ENTRY	24	31	38	45	54	60
10)OFFICE AUTOMATION	2	2	3	4	5	8
11)PERSONAL COMP.	170	199	238	279	326	378
12A) TRANS. SVC.-RJE	33	41	51	61	72	84
12B) TRANS. SVC. INTER	22	28	34	40	48	56
TOTAL END USER INTR	377	436	514	590	687	790
TOTAL	404	477	572	668	795	943

EXHIBIT II M  
U.S. REVENUE FORECASTS  
OTHER INDUSTRIES  
(MILLIONS OF DOLLARS)

RCS OFFERINGS	YEAR					
	1980	1981	1982	1983	1984	1985
ON SITE HARDWARE (DDP)						
1)APPLICATION DEVEL.	3	4	5	6	8	10
2)DATA BANKS	1	1	2	2	3	5
3)DATA ENTRY	LESS THAN 1	LESS THAN 1	1	1	1	2
4)OFFICE AUTOMATION	LESS THAN 1	1	1	2	3	5
5)PERSONAL COMP.	7	12	16	23	32	44
6)TRANSACTION SVCS.	2	5	6	10	14	21
TOTAL ON-SITE HDW.	15	23	31	44	61	87
END USER INTERFACE ONLY						
7)APPLICATION DEVEL.	35	36	38	39	41	44
8)DATA BANKS	11	18	26	40	60	80
9)DATA ENTRY	7	8	10	12	16	18
10) OFFICE AUTOMATION	2	2	3	4	5	8
11) PERSONAL COMP.	108	126	150	174	206	238
12A) TRANS. SVC.-RJE	39	49	59	71	85	99
12B) TRANS. SVC. INTER.	26	33	39	47	57	65
TOTAL END USER INTR	228	272	325	387	470	552
TOTAL	241	295	356	431	531	639

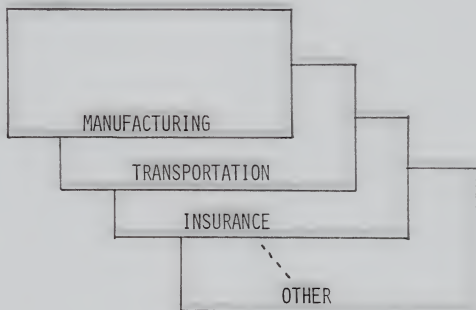
METHODOLOGY  
AND  
ASSUMPTIONS  
FOR REVENUE FORECASTS  
BY INDUSTRY

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1. DETERMINE THE PERCENTAGE OF TOTAL RCS REVENUES ATTRIBUTABLE TO EACH OF THE INPUT MARKET SEGMENTS FOR EACH FORECAST YEAR. ASSUME THE SAME GROWTH RATE BEYOND 1983.

	1980	1981	....	1985
GENERAL BUSINESS	$W_0\%$	$W_1\%$	$W_M\%$	$W_5\%$
SCIENTIFIC & ENG.	$X_0\%$	$X_1\%$	$X_M\%$	$X_5\%$
INDUSTRY SPEC.	$Y_0\%$	$Y_1\%$	$Y_M\%$	$Y_5\%$
UTILITY	$Z_0\%$	$Z_1\%$	$Z_M\%$	$Z_5\%$
TOTAL	100%	100%	100%	100%

11. REPEAT STEP 1. FOR EACH INDUSTRY SEGMENT.



111. DETERMINE "AVERAGE" OR "TYPICAL" PERCENTAGE OF  
RCS REVENUE ATTRIBUTABLE TO EACH INPUT MARKET  
SEGMENT FOR EACH INDUSTRY (13 INDUSTRY GROUPS).

	GEN BUS	SCI ENG	IND SPE	UTIL _____
DISCRETE PROCESS	18%	16%	44%	22%
,				
,				
,				
,				
,				
OTHER				

IV. USING STEP III, COMPUTE A DEVIATION INDEX WHICH REFLECTS THE DIFFERENCE IN THE USE OF RCS FOR EACH INDUSTRY.

- DIVIDE EACH CELL IN III BY THE APPROPRIATE % FROM STEP I.

	GEN BUS	SCI ENG	IND SPE	UTIL
DISCRETE PROCESS	$18\%/W_M\%$	$16\%/X_M\%$	$44\%/Y_M\%$	$22\%/Z_M\%$
,				
,				
,				
,				
OTHER				

V. CONVERT THE MATRIX GENERATED IN STEP IV. TO A SET OF INDEXES WHICH REFLECT THE DIFFERENCE IN RCS USAGE BY INDUSTRY FOR THE 13 RCS OFFERINGS;

- THE ASSUMPTIONS EMPLOYED ARE TAKEN FROM THE INPUT SUBMISSION OF SEPTEMBER 14, 1979.

	ADP DEVEL	DATA BANK	DATA ENTRY	OFF AUT	PER COM	TRAN SVCS
DISCRETE						
PROCESS						
TRANS						
,						
,						
,						
,						
,						
OTHER						

VI. DETERMINE THE PERCENTAGE OF RCS REVENUE ATTRIBUTABLE TO EACH INDUSTRY FOR EACH YEAR.

	1980	1981	....	1985
DISCRETE				
PROCESS				
,				
,				
,				
,				
,				
OTHER				
TOTAL	100%	100%		100%

- VII. DETERMINE THE PERCENTAGE OF RCS REVENUE ATTRIBUTABLE TO EACH RCS OFFERING PAIR FOR EACH YEAR.

	1980	1981	....	1985
OFFERING 1 & 7				
OFFERING 2 & 8				
,				
,				
,				
OFFERING 6 & 12A & 12B				
TOTAL	100%	100%		100%

VIII. COMPUTE FINAL VALUES USING RESULTS OF STEPS  
V, VI, AND VII.

RCS OFFERING INDEX  
(STEP V.)

X

RCS PERCENT  
(STEP VI.)

X

RCS OFFERING PERCENT  
(STEP VII.)

X

RCS \$  
(SEPTEMBER 14, 1979 SUBMISSION)